

ameter, glabrous.

This species, the type species of the genus is based on *McClure 3143* [Herb. Canton Chr. Coll. 9692] from forested ravines at Yik Tsok Mau, Hainan island, China, collected on May 18, 1922, originally deposited in the herbarium of the Philippine Bureau of Science in Manila, now doubtless destroyed. The genus is dedicated to Professor Ts'oong (Chung) Kwan Kwong of Pekin University. Merrill (1923) cites also *Ts'oong 1908* from Kwantung.

Pételot (1953) asserts that the species is "Endémique au Nord-Vietnam et au Centre-Vietnam ainsi qu'à Haïnan" and that a leaf and bark decoction of this plant is used medicinally to treat itching, mange, and scab. The vernacular name for the plant in Indochina is "tho".

Recent collectors describe the species as a slender branched shrub, 2.7--5 m. tall, a tree, 2--8 m. tall, or even as "scandent on trees" [*Liang 62622*], the trunk 30--90 cm. in diameter at breast height, the bark gray, the branches gray-green, the leaves thin-papery, dark-green and shiny above, lighter-green beneath, the fruit obovate, green or light-green to yellow-green when immature, lustrous purple or purplish-green to greenish-brown, or even reddish-black, when mature. They have found it growing on mountainsides, in forested ravines, and in the dense shade of mixed woods, at 1000 m. altitude, flowering in July, and in fruit in July, August, and October.

The corollas are said to have been "greenish" on *Ching 8264* and "yellow" on *Liang 62622* & *62725*, *McClure 3143*, and *Tsang & Fung 581*.

Citations: CHINA: Kwangsi: *R. C. Ching 8264* (N). CHINESE COASTAL ISLANDS: Hainan: *Chun & Tso 44022* (B, N, W--1669552); *How 72362* (Bi); *Liang 62622* (N), *62725* (N, S, W--1670909), *63184* (N); *F. A. McClure 3143* [Herb. Canton Chr. Coll. 9692] (Bi--isotype, Ca--325750--isotype, Ca--366331--isotype, Gg--127988--isotype, N--photo of type, Ph--type, Z--photo of type); *Tsang & Fung 581* (B, N, W--1659944); *C. Wang 35721* (N). VIETNAM: Annam: *Poilane 11219* (W--2496744). Tonkin: *Pételot 5687* (W--1717084). MOUNTED ILLUSTRATIONS: Hu, *Icon. Pl. Sin.* 3: pl. 150. 1933 (N, Z).

-----

NOTES ON THE GENUS *MONOCHILUS*

Harold N. Moldenke

Herewith are presented notes, chiefly bibliographic, assembled on this genus by my wife and myself over the past fifty years. This is the 55th genus on which our notes have been published to date. Time for a detailed monograph, as originally planned, is now, unfortunately, no longer available. Full explanation of the herbarium acronyms herein employed -- the same as used by me in

all of the large series of papers published in this journal -- will be found in my "Fifth Summary" (1971), volume 2, pages 795 to 801.

*MONOCHILUS* Fisch. & Mey., Ind. Sem. Hort. Petrop. 1: 34. 1835; Linnaea 10: Litt.-Ber. 97. 1836 [not *Monochilus* Wall., 1840, nor "Wall. ex Lindl.", 1966].

Synonymy: *Monochilus* Fisch. ex Spach, Hist. Nat. Vég. 9: 227. 1840. *Monachilus* Mukherjee & Chanda, Trans. Bos. Res. Inst. 41: 45. 1978.

Bibliography: Fisch. & Mey., Ind. Sem. Hort. Petrop. 1: 34. 1835; Fisch. & Mey., Linnaea 10: Litt.-Ber. 97. 1836; Fisch. & Mey., Ann. Sci. Nat. Paris, ser. 2, 5: 124. 1836; Reichenb., Handb. 190. 1837; Endl., Gen. Pl. 633 & 634. 1838; Sweet, Hort. Brit., ed. 3, 764. 1839; Meisn., Pl. Vasc. Gen. 2: [Comment.] 198, 199, & 290. 1840; Spach, Hist. Nat. Vég. Phan. 9: 227. 1840; Endl., Enchirid. Bot. 312. 1841; Reichenb., Nom. 108. 1841; D. Dietr., Syn. Pl. 3: 371 & 605. 1843; Walp., Repert. Bot. Syst. 4: 37. 1845; Lindl., Veg. Kingd. 664. 1847; Schau. in A. DC., Prodr. 11: 524 & 526--527. 1847; A. L. Juss. in Orbigny, Dict. Univ. Hist. Nat. 13: 184. 1849; Schau. in Mart., Fl. Bras. 9: 170--172 & 307, pl. 32, fig. 1. 1851; Schnitzl., Icon. Fam. Nat. Reg. Veg. 2: 137 Verbenac. [3]. 1856; Buek, Gen. Spec. Syn. Candoll. 3: 301. 1858; Bocq., Adansonia, ser. 1, 2: 87. 1862; Pfeiffer, Nom. Bot. 2 (1): 132 & 345 (1874) and 2 (2): 1570. 1874; Benth. in Benth. & Hook., Gen. Pl. 2 (2): 1132, 1134, & 1147. 1876; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 2: 258. 1894; Briq. in Engl. & Prantl., Nat. Pflanzenfam., ed. 1, 4 (3a): 156 & 157. fig. 60 C & D (1895) and ed. 1, 4 (3a): 382. 1897; Dalla Torre & Harms, Gen. Siphonog., imp. 1, 431. 1904; M. Kunz, Anatom. Untersuch. Verb. 56 & 57. 1911; Nienburg, Justs Bot. Jahresber. 39 (2): 1051. 1916; J. C. Willis, Dict. Flow. Pl., ed. 5, 430. 1925; A. W. Hill, Ind. Kew. Suppl. 8: 154. 1933; Junell, Symb. Bot. Upsal. 1 (4): 43 & 108, pl. 7, fig. 1. 1934; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 38 & 96. 1942; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 2, 2: 258. 1946; H. N. & A. L. Mold., Pl. Life 2: 22--24 & 31. 1948; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 81, 162, & 191. 1949; Metcalfe & Chalk, Anat. Dicot. 2: 1031, 1032, & 1040. 1950; J. C. Willis, Dict. Flow. Pl., ed. 6, 430. 1951; Stellfeld, Trib. Farmac. 19 (10): 171. 1951; Angely Cat. Estat. Gen. Bot. Fan. 17: 5. 1956; Angely, Fl. Paran. 7: 4. 1957; Mold., Résumé 94, 220, 320, & 463. 1959; Angely, Liv. Gen. Bot. Bras. 35 & 49. 1960; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 2: 258. 1960; Runner, Rep. Groff Coll. 362. 1961; Dalla Torre & Harms, Gen. Siphonog., imp. 2, 431. 1963; F. A. Barkley, List Ord. Fam. Anthoph. 76 & 187. 1965; Airy Shaw in J. C. Willis, Dict. Flow. Pl., ed. 7, 737. 1966; J. Hutchins., Evol. Phytol. Flow. Pl. Dicot. 473. 1969; Angely, Fl. Anal. Fitogeogr. S. Paulo, ed. 1, 4: xiii & 826. 1971; Mold., Fifth Summ. 1: 157 & 366 (1971) and 2: 572, 755, & 895. 1971; Mukhopadhyay, Pollen Morph. Verb. [thesis]. 1971; Airy Shaw in J. C. Willis, Dict. Flow. Pl., ed. 8, 756. 1973; Napp-Zinn, Anat. Blatt. A (1): 418.

1974; Thanikaimoni, Inst. Franç. Pond. Trav. Sect. Scient. Tech. 12 (2): 84. 1973; Troncoso, Darwiniana 18: 410. 1974; Mold., Phytologia 34: 275 & 507. 1976; Rouleau, Guide Ind. Kew. 124 & 352. 1976; Thanikaimoni, Inst. Franç. Pond. Trav. Sect. Scient. Tech. 13: 154 & 328. 1976; Mukherjee & Chanda, Trans. Bose Res. Inst. 41: 41, 45, & 48. 1978.

Dwarf erect herbs, growing from a creeping rhizome, glabrous or slightly viscid-puberulent; leaves alternate or subopposite, simple, membranous, rather large, marginally repand-dentate, exstipulate; inflorescence an elongated, axillary or terminal, loose-flowered raceme, the flowers borne in the axils of very small bracts, hypogynous, solitary, short-pedicellate, sparse along the raceme rachis; bractlets minute, borne at the midpoint of the pedicels; calyx gamosepalous, campanulate or subcyathiform, membranous, not costate, subbilabiate-obloque, shortly 5-fid, the lobes somewhat unequal, 2 superior, 2 lateral, and 1 basal, all apically acute; corolla gamopetalous, whitish, zygomorphic, hypocrateriform, the tube cylindric, oblique and somewhat ampliate above, posteriorly divided, the limb very oblique, bilabiate, the anterior lip spreading and apically trifid, the posterior lip with 2 short lobes at the base; stamens 4, inserted at the middle of the corolla-tube, somewhat unequal, shorter than the corolla-lips; anthers oblong, unappendaged, cernuus, bilocular, basally sagittate, the thecae parallel, basifixed to the dorsal connective; style terminal, capillary, elongate, apically rather obtuse, equaling the stamens; stigma punctiform; ovary short, bilocular and each locule biovulate or else each locule 2-locellate by a false partition; ovules erect, attached laterally near the base; fruit subdrupaceous, subglobose, basally closely enclosed by the fruiting-calyx, composed of 4 (or by abortion less) cocci, the pericarp fleshy, rugose, the endocarp leathery; seeds erect; cotyledons 2, applicate, thick, oily; radicle short, thick

Type species: *Monochilus gloxinifolius* Fisch. & Mey.

Junell (1934) says: "Die beiden Gattungen *Monochilus* und *Amazonia* (*Taligalea*) fasst Briquet in einem Subtribus *Monochileae* zusammen, die nach *Priveae* gestellt wird. Der Fruchtknotenbau bei den beiden Gattungen ergibt sich jedoch als einem Typus angehörig, der für *Verbenoideae* vollständig fremd ist. Wie sich aus Taf. VII, Fig. 1 und 2 ergibt, sind die Samenanlagen nicht an den Rändern der Fruchtblätter, sondern in den Innenseiten derselben in einem gewissen Abstand von den Rändern befestigt. Dieser neuer Plazentationstypus ist, wie wir weiter unten sehen werden, charakteristisch für die folgenden Tribus von *Verbenaceae* (*Chloanthoideae* und folgende Tribus). Die beiden Gattungen werden in der Tribus *Viticoideae* untergebracht.....Die Plazenten sind bis an die Fruchtwand gespalten (Taf. VII, Fig. 1). Mehrzellige Drüsen treten auf den Fruchtblatträndern und den Plazenten auf."

Schauer (1847) makes *Monochilus* the type genus of a Subtribe *Monachileae* [*sic*] whose characters, he says, are: "Racemi laxiflori. Calyx subbilabiatus. Corolla tubulosa, unilabiata. Ovarii loculi uniovulati." Bentham (1876) comments that "Genus

corollae forma insignis. Specimina primo intuito *Privam laevam* referunt, praeter corollas calyce brevi statim dignoscenda".

The *Monochilus* of Wallich, referred to in the synonymy (above), is a synonym of *Zeuxine* Lindl. in the *Orchidaceae*, whose known species are listed below.

It may be worth noting here that the Endlicher (1838) reference given in the bibliography above is usually cited as "1836-1856", but the page involved here was actually published in 1838. Similarly, the Schnitzlein (1856) reference is usually cited as "1843-1870", but the page here involved was issued in 1856. The Angely (1971) reference is often cited by the erroneous titlepage date of "1970". Endlicher's *Enchirid. Bot.* (1841) is erroneously cited by some writers as "1831".

The derivation of the generic name, *Monochilus*, is from the Greek, *μονος*, one, and *χειλος*, lip.

A list of excluded species, being members of the homonymous genus of Wallich, is as follows:

- Monochilus affinis* Lindl., *Gen. Sp. Orch.* 487. 1840 -- in the *Orchidaceae*
- Monochilus affinis* Wight, *Icon. pl.* 1728. 1852 = *Zeuxine longilabris* (Lindl.) Benth., *Orchidaceae*
- Monochilus boryi* Reichenb. f., *Linnaea* 41: 60. 1877 -- in the *Orchidaceae*
- Monochilus clandestinus* Wight, *Icon. pl.* 1727. 1852 = *Cheirostylis flabellata* Wight, *Orchidaceae*
- Monochilus flavus* Wall. ex Lindl., *Gen. Sp. Orch.* 487. 1840 = *Zeuxine flava* (Wall.) Benth., *Orchidaceae*
- Monochilus galeatus* Lindl., *Journ. Linn. Soc. Lond. Bot.* 1: 187. 1857 = *Zeuxine goodyeroides* Lindl., *Orchidaceae*
- Monochilus goodyeroides* Lindl., *Gen. Sp. Orch.* 487. 1840 = *Zeuxine goodyeroides* (Lindl.) Lindl., *Orchidaceae*
- Monochilus gracilis* Lindl. ex Miq., *Fl. Ind. Bat.* 3: 723. 1859 = *Adenostylis gracilis* (Blume) Merr., *Orchidaceae*
- Monochilus gymnochiloides* Ridl., *Journ. Linn. Soc. Lond. Bot.* 21: 499. 1885 = *Cheirostylis gymnochiloides* Reichenb. f., *Orchidaceae*
- Monochilus lepidus* Reichenb. f., *Otia Bot. Hamb.* 2: 110. 1881 = *Cheirostylis lepida* (Reichenb. f.) Rolfe, *Orchidaceae*
- Monochilus longilabris* Lindl., *Gen. Sp. Orch.* 487. 1840 = *Zeuxine longilabris* (Lindl.) Trimen, *Orchidaceae*
- Monochilus nervosus* Wall. ex Lindl., *Gen. Sp. Orch.* 487. 1840 = *Zeuxine nervosa* (Wall.) Benth., *Orchidaceae*
- Monochilus parviflorus* Miq., *Fl. Ind. Bat.* 3: 724. 1859 -- in the *Orchidaceae*
- Monochilus plantagineus* Reichenb. f., *Otia Bot. Hamb.* 1: 52. 1878 -- in the *Orchidaceae*
- Monochilus regius* Lindl., *Gen. Sp. Orch.* 487. 1840 = *Zeuxine regia* (Lindl.) Trimen, *Orchidaceae*
- Monochilus stenophyllus* Reichenb. f., *Otia Bot. Hamb.* 1: 52. 1878 -- in the *Orchidaceae*
- Monochilus tetrapterus* Reichenb. f., *Otia Bot. Hamb.* 2: 110. 1881 -- in the *Orchidaceae*

*Monochilus vieillardii* Reichenb. f., *Linnaea* 41: 60. 1877 -- in the *Orchidaceae*

*Monochilus zollingeri* Reichenb. f., *Bonplandia* 5: 35. 1857 -- in the *Orchidaceae*

*MONOCHILUS GLOXINIFOLIUS* Fisch. & Mey., *Ind. Sem. Hort. Petrop.* 1: 34. 1835; *Linnaea* 10: Litt.-Ber. 97. 1836.

Synonymy: *Monochilus gloxiniaefolius* Fisch. & Mey. apud D. Dietr., *Syn. Pl.* 3: 605. 1843.

Bibliography: see bibliography of the genus as a whole.

Illustrations: Schau. in Mart., *Fl. Bras.* 9: pl. 32, fig. 1. 1851; Briq. in Engl. & Prantl, *Nat. Pflanzenfam.*, ed. 1, 4 (3a): 157, fig. 60 C & D. 1895; Junell, *Symb. Bot. Upsal.* 1 (4): pl. 7, fig. 1. 1934.

A low herb, subviscid with depressed hairs throughout; rhizome creeping, fleshy; stems abbreviated, subviscid-pubescent, leafless below; leaves crowded at apex of the stems, alternate or subopposite; petioles elongate, densely soft-pubescent; leaf-blades membranous, oblong, apically acuminate, marginally repandentate, basally acuminate, flat, penninerved, green above, often purpurescent beneath, the venation softly and densely pubescent; racemes axillary or terminal, subviscid-pubescent throughout, suberect, pedunculate, loosely many-flowered, the flowers subtended by a single, linear, spreading bract; pedicels slightly shorter than the calyx, bibracteolate at or slightly above the middle with minute stipitate bractlets; calyx about 4 mm. long, the lobes ovate, spreading, apically acute, accrescent in fruit and then finally widely patelliform; corolla white, externally glandular-pubescent, the tube about 8 mm. long, the lobes about 6 mm. long, ovate, the lateral ones reflexed; fruit drupaceous, ovoid, blackish.

This species is based on *Riedel 1150* from "In sylvis primaevis provinciae Sebastianopolitanae prope Macahẽ", Rio de Janeiro, Brazil, deposited in the Leningrad herbarium, where it was examined by Schauer. Some recent collections sent to me from Rio de Janeiro by the late Dr. Pabst differ so markedly in the inflorescence characters that I cannot reconcile myself to the thought that they actually represent this species, or even anything in this family.

Kunz (1911) and Napp-Zinn (1974) report the presence in this plant of "derartige drüsenhaarhomologe Nektarien" and note that the "Grundtypus insofern die Epithelschicht schlüsselförmig entwickelt."

Junell (1934) reports the species cultivated as well as native in Brazil.

Citations: BRAZIL: Rio de Janeiro: *Riedel 1150* (Mu--isotype). CULTIVATED: Belgium: *M. Martens s.n.* [h. b. lov.] (Br, N--photo, Z--photo). MOUNTED ILLUSTRATIONS: Schau. in Mart., *Fl. Bras.* 9: pl. 32, fig. 1. 1851 (N, Z).